

SAN PEDRO BAY PORTS CLEAN AIR ACTION PLAN

March 12, 2020

Matt Miyasato, Ph.D.
Deputy Executive Officer
Science and Technology Advancement Office
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: Ocean-Going Vessel Retrofit – ECA200 Upgrade Project – Letter of Support

Dear Dr. Miyasato:

The Port of Los Angeles and Port of Long Beach (San Pedro Bay Ports, Ports) are pleased to support the South Coast Air Quality Management District (South Coast AQMD) application to the US EPA's 2019 and 2020 Targeted Airshed Grant Program (TAG) to upgrade a Tier II ocean-going vessel (OGV) with selective catalytic reduction (SCR) technology in order to reduce NOx emissions by 75% (equivalent to Tier III emission levels) when operating within 200 nautical miles (nm) of port. This innovative concept to target low-load engine emissions within 200 nm is named "ECA200."

This project will directly support the goals of the joint 2017 Clean Air Action Plan and its Technology Advancement Program (TAP). The TAP is focused on testing and evaluating the performance of emerging technologies through in-service demonstrations and your project to evaluate the emission reduction potential of an OGV retrofit technology has the potential to provide significant emission reductions if success is demonstrated and the technology can be widely implemented.

The Ports are working across all source categories to reduce criteria air pollutants and greenhouse gas emissions. OGV emission reductions are particularly challenging as the turnover of older, more polluting engines is very slow. The availability of emission control systems that can be retrofit to existing OGVs is critically important if OGV emissions are to be reduced. The Ports are especially interested in the project's plan to



Port of **LONG BEACH**
THE GREEN PORT

Port of Long Beach | Environmental Planning
415 W. Ocean Blvd | Long Beach, CA 90802
552.283.7100



THE PORT
OF LOS ANGELES

Port of Los Angeles | Environmental Management
425 S. Palms Verdes Street | San Pedro, CA 90731
310.732.3675

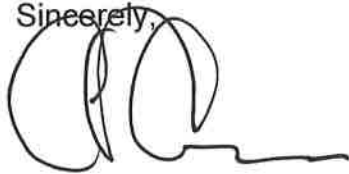
The San Pedro Bay Ports Clean Air Action Plan was developed with the participation and cooperation of the staff of the US Environmental Protection Agency, California Air Resources Board and the South Coast Air Quality Management District.

assess the low-load operation (between 10% and 25%) of the SCR systems, since our Vessel Speed Reduction programs bring propulsion engines into this low-load range.

The Ports support this OGV retrofit application and are hopeful that US EPA will select this project. The Ports acknowledge South Coast AQMD's request of \$150,000 in project co-funding per Port (\$300,000 total). The Ports reviewed the initial project scope with our TAP Advisory Committee. Upon notice of US EPA selection, the project will go through the formal TAP review process and, if approved by both Ports' staff and the TAP Advisory Committee, a request for project funding will be made to the respective Board of Harbor Commissioners.

Thank you for your ongoing support in our efforts to reduce emissions from San Pedro Bay Ports sources and good luck with your US EPA application. Please feel free to contact our staff with any questions at jgoldberg@portla.org, or at (310) 732-2675, or rose.szoke@polb.org, or at (562) 283-7100.

Sincerely,



CHRISTOPHER CANNON
Director of Environmental Management
Port of Los Angeles



MATTHEW ARMS
Acting Director of Environmental Planning
Port of Long Beach

**South Coast Air Quality Management District
Program Supervisor, Mrs. Mei Wang**

**21865 Copley Drive
Diamond Bar, CA 91765**

17th of March 2020

Ocean-Going Vessel Retrofit - Near coastal NOx reduction solution development

Dear Mei Wang,

We at MAN ES appreciate the cooperation with you and the opportunity to work further on environmental friendly solutions with the aim to develop technological solutions, feasible for OGV in near coastal commercial operation to reduce NOx emissions by at least 75%.

The project proposal developed in close cooperation between MAN ES, SCAQMD and the Ports of Los Angeles, which is subject to approval by US EPA office suggest to develop a specific NOx reduction method based on a LP SCR system, which shall be able to reduce NOx emissions also in low load engine operation, typically applied on OGV operating within the 200 nm area offshore the ports.

MAN ES express with this letter of support the readiness for participation in such demonstrator project, providing that the project proposal will be approved and funded by the sponsor. Further a full commitment from a vessel owner interested in such project, thus providing the vessel for implementation of the NOx reduction technology, is a necessary boundary condition.

Providing that a.m. approval by the project sponsor (US EPA office) as well as the owner commitment will be achieved, thus the project will materialize, MAN ES will contribute related to the total budget with an in-kind contribution of US\$ 100,000.

We kindly ask you at SCAQMD to proceed with the project proposal submittal, thus the project approval towards US EPA office.



Looking forward for continued close cooperation.

Best regards

A handwritten signature in blue ink, appearing to read "Michael Witt", written over a light blue circular stamp.

Michael Witt
Head of Retrofit Development Department

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Research & Development, Two-Stroke Business
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Denmark
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Mike.Witt@man-es.com



3/16/2020

Subject: Project Partner Letter of Support for EPA 2019 & 2020 Targeted Airshed Grant Program Proposal for Fuel Cell Auxiliary Power

Dear Mei Wang,

Bloom Energy is pleased to offer its support as a Project Partner to SCAQMD in the proposed project application to install fuel cell at the on a containership to essentially perform the function of the auxiliary engine under the EPA 2019&2020 Targeted Airshed Grant Program.

Bloom Energy, as a leading solid oxide fuel cell manufacturer in North America, is committed to supplying the 1.5 MW fuel cell and install at a vessel. San Pedro Bay Port in California.

Bloom Energy will be conducting this work in conjunction with AQMD to address the problem of pollution in Southern California ports. Bloom energy will provide support to the project by investing in the development and testing of a marine-friendly platform compatible with the safety, footprint, environment and integration requirements of the marine environment.

| | Additional Cost (Bloom Energy) | | |
|---|--|---------------------|------------|
| 1 | AC Module development for Marine requirement | \$ 640,000 | |
| 2 | Total System Reliability Testing | \$ 1,500,000 | |
| 3 | Personnel Time | \$ 1,081,000 | |
| | Bloom Energy | \$ 3,221,000 | 24% |

Bloom Energy has deployed 375 MW across over 600 sites globally. Since Bloom began commercial deployments in 2011, our systems have achieved:

- Approximately 2.33 million metric tonnes of CO2 reduction globally through 2019
- Associated criteria pollutant reductions, including 5.05 million pounds of sulfur oxides (SOx), and 8.9 million lbs. of nitrogen oxides (NOx)

Bloom Energy looks forward to working with the SCAQMD and vessel operator on this project and is providing cost share of \$3,221,000 to provide zero emission vessel operation, If you have any questions about our support, please do not hesitate to contact me.

Sincerely,

Venkat Venkataraman

CTO, Bloom Energy



Yuri Freedman
Senior Director of Business Development

555 West Fifth Street
Los Angeles, CA 90013

tel: (323) 547-4614
email: YFreedman@socalgas.com

March 20, 2020

Joseph Impullitti
Technology Demonstration Manager
South Coast Air Quality Management District
21865 Copley Dr.
Diamond Bar, CA 91765

Subject: SCAQMD's Proposal in Response to United States Environmental Protection Agency's (US EPA) 2019 and 2020 Targeted Airshed Grant

Dear Mr. Impullitti,

The Southern California Gas Company (SoCalGas) is pleased to offer this letter of support for South Coast Air Quality Management District's (SCAQMD) proposal to the United States Environmental Protection Agency's (US EPA) 2019 and 2020 Targeted Airshed Grant Program. SCAQMD proposes to demonstrate the use of liquified natural gas (LNG) in fuel cells to provide low emissions auxiliary power to ocean going vessels at berth and during transit and maneuvering. SoCalGas believes that the project team is well positioned to meet the project goals and to showcase a successful demonstration for the US EPA Program.

SoCalGas is the nation's largest gas distribution utility. We deliver clean, safe and reliable energy to 21.6 million consumers through 5.9 million meters in more than 500 communities. Our service territory encompasses approximately 20,000 square miles in diverse terrain throughout Central and Southern California, from Visalia to the Mexican border. SoCalGas is a regulated subsidiary of Sempra Energy, a Fortune 500 energy services holding company based in San Diego.

Because of SoCalGas' strong commitment to invest in new technologies to help our customers and our employees use energy more efficiently and productively, we plan to provide co-funding of \$2,000,000 over the term of the project.

Participation of SoCalGas will be at its discretion and contingent upon the available funding and ability to meet any requirements from the California Public Utilities Commission or other regulatory agencies or legal authorities. The commitment of SoCalGas is also subject to finalization (to the mutual satisfaction of the parties) of all the terms and conditions of a legally binding agreement between the participants and the confirmation of funding from US EPA for the proposed project.

Sincerely,

A handwritten signature in blue ink, appearing to read "Yuri Freedman", is written over a light blue circular stamp.

Yuri Freedman
Senior Director of Business Development